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ABSTRACT

The skills and approaches to study were investigated for 549 students from Hong Kong/Macau enrolled in undergraduate distance learning courses with the East Asian Open Institute. The sample included students at all stages in their studies, from those in their first year to graduates with an ordinary degree and honors graduates. Correlations between the study skills and study approaches, as measured by Biggs' Study Process Questionnaire (SPQ), and three measures of success--persistence, number of credits gained, and grades achieved--were investigated. The SPQ identified three dimensions for students' motives for study and for their study strategies: surface, deep, and achieving. Students rated their study skills on a five-point scale. The study skills, upon which students rated themselves highest, were understanding concepts and theories, tackling assignments, and reading effectively. Those upon which students rated themselves lowest were learning from audio- and videotapes. Students who had persisted in the system longer rated themselves more highly on some study skills. Students who had gained more credits rated themselves more highly on most study skills. The conclusion was that deep motivation was a key to success, but to succeed in gaining credits and good grades, deep strategy, achieving motive, and achieving strategy were also needed. (Contains 15 references.) (YLB)

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The development of study processes in distance learning students

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ABSTRACT

Adults coming to distance learning courses often find a very different type of education from that which they experienced at school. They need additional skills for studying independently from the course materials, like self discipline and organisation of their own time. Their approach to study may not be appropriate. However these adults have acquired study skills and developed successful study processes distance learning, they are well prepared to continue their own educational development throughout adult life.
This paper looks at the skills and approaches to study of a large sample of students in the Hong Kong / Macau region, who are studying undergraduate distance learning courses with English as the medium of instruction, with the East Asian Open Institute. Correlations between the study skills and study approaches, as measured by Biggs' Study process Questionnaire (SPQ), and three measures of success are investigated. These measures of success are: persistence (within the system); number of credits gained; and grades achieved. The paper then discusses to what extent the study processes and skills needed by these adults are developed in the academic distance learning courses offered to them.

INTRODUCTION

There have been some studies of the student approaches to study in conventional higher education in the Hong Kong area, e.g.Biggs(1),Stokes et al. (2),Gow & Kember (3) and some initial international studies of distance learning student's approaches to study e.g. Kember and Harper(4) show that the literature is also relevant to distance education, but there has been only a limited research in Hong Kong on distance education students' study approaches e.g. Kember et al.(5) develop a distance education student progress instrument based upon Ramsden and Entwistle's(6) Approaches to Study Inventory.

This paper analyses the study approaches of a sample of over five hundred distance learning students from Hong Kong / Macau, studying undergraduate distance learning courses in the medium of English at the East Asian Open Institute (EAOI). In particular it focuses the motivation and strategies of successful students, as measured by Biggs' Study Process Questionnaire (7). It also builds upon the earlier work of the author(8 &9) on the study skills needed for the successful distance learner, using multi media courses.

"Successful student" has many interpretations. This project considers three: persistence in studying; credits achieved; and grades achieved.

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THE METHOLOGY

This project uses the Study Process Questionnaire (SPQ), which is based upon Biggs' information processing model of learning (10) which identifies three dimensions for both students' motives for study and for their study strategies. These dimensions are: surface, deep and achieving. The SPQ and a related LPQ (for younger students) has been used extensively in many parts of the world e.g. the Philippines Watkins et al.(11) and Australia, Watkins(12). Prof John Biggs(13) and Stokes et al.(2) used it in Hong Kong with full time tertiary students, in a bilingual form (English and Chinese). This bilingual form was used in the current study along with a short information sheet for student details, and a self assessment of their study skills and competency in the English language (described below).

The SPQ consists of statements for each of the dimensions of motive and strategy, which students were asked to rate on the scale of 1 to 5 given in Table 1.

Table 1: SPQ scale for responses

1	this item is never or rarely true of me
2	this item is sometimes true of me
3	this item is true of me about half the time
4	this item is frequently true of me
5	this item is always or almost always true of me.

Each dimension is measured by a set of seven questions, the responses to which are added to give a score for each student between 7 and 35 . A score of 21 being equivalent to a student giving a response of 3 (this item is true of me about half the time) to each item in the set. The questions for each set are interspersed in the questionnaire. Brief descriptions of these dimensions of motive and strategy are given below, together with examples of relevant statements from the SPQ.

Student motives for study

"Surface motive" (SM) is very much extrinsic motivation, e.g. "I chose my present courses largely with a view to the job situation when I graduate, rather than because of how much they interest me." and "I almost resent having to spend a further three or four years studying after leaving school, but feel that the end results will be worthwhile". Surface motivation includes being motivated by results rather e.g. marks rather than personal development: "I am discouraged by a poor mark on a test and worry about how I will do on the next test".

By contrast "deep motive" (DM) is very much intrinsic motivation e.g. "I find that studying gives me a feeling of deep personal satisfaction" and "I find that studying academic topics can be as exciting as a good novel or movie. This motivation for study includes a search for self fulfilment and a philosophy of life: "I believe strongly that my main aim in life is to discover my own philosophy and belief system and to act in accordance with it".

"Achieving motive" (AM) is a desire to excel and to do well in life e.g. "I have a strong desire to excel in all my studies" and "I would see myself basically as an ambitious person and want to get to the top, whatever I do". It includes a view of life as a competition to win e.g. "I see getting high grades as a kind of competitive game, and I play to win".

Student study strategies

"Surface strategy" (SS) aims to avoid failure, but not to do more work than necessary, e.g. "I restrict my study to what is specifically set as I think it is unnecessary to do anything extra" or "I think browsing around is a waste of time, so I only study seriously what's given out in class or course outlines" . It includes

an unquestioning acceptance of what is taught and learning it by rote, e.g. "I find it best to accept statements and ideas from my teachers/lecturers and question them only under exceptional circumstances" and "I learn some things by rote going over and over them until I know them by heart".

"Deep strategy" (DS) involves aiming for a good overall understanding and relating it to one's own experience, e.g. "While I am studying, I think of real life situations to which the material I am learning would be useful", "I try to relate new material, as I am reading it, to what I already know on that topic" and "I find that I have to do enough work on a topic so that I can form my own point of view before I am satisfied". This strategy involves following topics of interest and relating them to other subject areas e.g. "I find most new topics interesting and spend time trying to obtain more information about them" and "I try to relate what I have learnt in one subject to that in another".

"Achieving strategy" (AS) involves being hard working and well organised in order to achieve good grades, e.g. "I try to work consistently throughout the term and review regularly when exams are close", "I try to do all of my assignments as soon as possible after they are given out" and "I keep neat well-organised notes for most subjects".

Student details

The information sheet requested student registration numbers, which indicate the year of enrollment in the EAOI programme, their degree programme (BA,BBA, or BSc), study line, the credits they had already gained and were currently studying, the highest level of course they had studied so far, and the grades they usually obtained. A small sample of this data was double checked against EAOI student records and found to be accurate.

Command of English

The information sheet asked for students' highest English language qualification. It also asked students, for whom English was not their first language, how frequently they translated what they read in English back into their own language in order to understand it better. They were also asked about the languages spoken at home and in tutorials.

Study skills

The skills needed for distance learning are summarised in Ekins(8), the ones selected for this study were: organising your time to study; disciplining yourself to study; acquiring necessary background skills; studying efficiently; reading effectively; understanding concepts/theories, remembering concepts/theories; remembering facts; learning from audio tape; learning from video tapes; making notes; tackling assignments; revising effectively; and examination technique. Students were asked to rate their study skills, on a five point scale from very poor (1) to very good (5).

The sample

Questionnaires were distributed in late 1990 to about 800 students and graduates of EAOI and 549 completed questionnaires were received, after second reminders by mid 1991. Hence the project gives a "snapshot" of student approaches and skills at the beginning of 1991. Of the respondents 8% were studying for a BA, 44% for a BBA and 47% for a BSc. The sample included students at all stages in their studies from those in their first year (19%) to graduates with an ordinary degree(18%) and honours graduates (2%).(Note an honours degree requires one more full time equivalent year of third level study than an ordinary degree). 38% of the sample had only studied to level 1(foundation), 22% had studied up to level 2 and 40% had studied up to level 3.

Most of the students were studying in a second language. 95% of the respondents always or mostly speak Cantonese at home, only 5% always or

mostly speak English (the medium of instruction for their studies) at home. At tutorials 29% spoke mostly or only in Cantonese, 46% spoke half in Cantonese and in half English, and 25% spoke mostly or only in English. Half the students had Hong Kong Certificate of Education (ordinary level) as their highest English qualification, 24% had an advanced level English qualification, and 10% had a SAT or TOEFL qualification. 20% say that they always or often translate what they read in English into their own language, 21% do this half the time and 41% do it occasionally. Only 18% of non native English speakers never translate into their first language. Hence 40% of students say they translate at least half the time!

THE ANALYSIS

Since the results give a "snapshot" of student study approaches, it cannot give the same information as a longitudinal study of the same cohort of students going through the system. However it can give indications of the current motivation, strategies and skills of students within the system and correlate these with three success factors: persistence within the the system; credits gained; and grades achieved.

The total sample mean of each of the SPQ scores are given in Table 2, together with the mean scores for students studying for different degrees. Note that the highest possible score for each scale is 35 (all items "true of me always") and the lowest possible score is 7 (all items "ever true of me"); the middle of each scale is 21 (equivalent to all items "true of me half the time").

Table 2: Mean scores on SPQ

			ALL	BA	BBA	BSc
Motive	surface	(SM)	22.05	20.16	23.23	21.37
	deep	(DM)	24.59	25.50	24.63	24.51
	achieving	(AM)	21.38	19.75	21.71	21,48
Strategy	surface	(SS)	19.94	19.14	20.38	19.71
	deep	(DS)	23.80	24.20	23.68	23.95
	achieving	(AS)	20.77	20.66	21.00	20.60

It can be seen that mean scores of the sample as a whole for each degree programme are higher for deep motive and deep strategy than for the other dimensions of motive and strategy . This is what one would hope for in university students!

The individual question with by far the lowest mean score (just under 2 compared with the next lowest of over 2.5) was the surface strategy question:

Q10) I learn some things by rote, going over and over them until I know them by heart

Individual questions with high mean scores (over 3.8) for the whole sample are given in Table 3.

Table 3: Individual questions with means>3.8

	Question	Scale
Q32)	I believe strongly that my main aim in life is to discover my own philosophy and belief system and to act in accordance with it.	deep motive
Q14)	I feel that most topics can be highly interesting once I become involved in them.	deep motive
Q13)	Whether I like it or not, I can see that further education is for me a good way to get a well paid or secure job.	surface motive
Q28)	I learn best from teachers/lecturers who work from carefully prepared notes and outline major points neatly on the blackboard.	surface strategy

The high scoring deep motive question are consistent with the high overall deep motive mean score. The high scoring surface motivation question, Q13, must be seen in the context of a booming economy in Hong Kong where higher education was, until recently, the province of a small minority, and qualifications open the door to increased opportunity. The high scoring surface strategy question, Q28, is typical of the attitudes of students coming out of the Hong Kong educational system (see Stokes et al. (2) for similar results for Hong Kong students entering polytechnic).

The study skills, upon which students rated themselves highest were: understanding concepts and theories, tackling assignments, and reading effectively. The study skills which students rated themselves lowest were: learning from audio tapes and video tapes.

Analysis by persistence: years in the system

A distance learning ordinary degree generally takes between three to eight years, and an honours degree one to two years longer. Students must persist with their studies over many years. Hence one measure of success in distance learning is a student's persistence in the system. Hence the correlation between the six scores and number of years in the system, was analysed.

The only significant correlations were that **deep motive increased with years in the system** (correlation coefficient .1568, significant at the 0.01 level) and **surface motive decreased with years in the system** (correlation coefficient negative .1184). Individual question responses which showed significant trends are given in Table 4 and are consistent with these trends.

Q3 and Q37 indicate that although the (extrinsic) surface motivation of job opportunities is decreasing, the desire to do well and achieve good grades and hence a good job opportunity is increasing with years in the system. The strong trends that deep motivation increases with persistence in the system are again shown in Q32 and Q2. Successful students, from the point of view of persistence with their studies, have deeper motivation.

Students who have persisted in the system longer, on average, rate themselves more highly on some study skills than other students, the most marked being: organising your time; acquiring necessary background skills; and making notes.

Table 4: Questions showing significant trends with years in the system

	Question	Scale	Trend	sig. level
Q2	I find that studying gives me a feeling of deep personal satisfaction.	Deep Motive	increases with years in system	0.01
Q32	I believe strongly that my main aim in life is to discover my own philosophy and belief system and to act strictly in accordance with it,	Deep Motive	increases with years in the system	0.01
Q37	I am at polytechnic/university mainly because I feel that I will be able to obtain a better job if I have a tertiary qualification.	Surface Motive	decreases with years in the system	0.05
Q3	I want top grades in most or all of my courses so that I will be able to select from among the best positions available when I graduate.	Achieving Motive	increases with years in the system	0.01

Analysis by credits gained

192 credits (at various stipulated levels) are needed for an ordinary degree in EAOI and 256 credits for an honours degree. Hence another measure of success is the number of credits gained. The correlation of the six scores with credits gained showed significant trends (at 0.01 significance level): there was an **increase in deep motivation with credits gained** (correlation coefficient .1775) and an **increase in achieving strategy with credits gained** (correlation coefficient .1468). Individual questions which showed significant correlation with credits gained are given in Table 5.

Table 5: Questions showing significant trends with credits gained

	Question	Scale	Trend	sig. level
Q2	I find that studying gives me a feeling of deep personal satisfaction.	Deep Motive	increases with credits gained	0.01
Q8	While I realise that truth is forever changing as knowledge is increasing, I need to discover what is truth for me right now.	Deep Motive	increases with credits gained	0.01
Q18	I try to do all of my assignments as soon as possible after they are given out.	Achieving Strategy	increases with credits gained	0.01

These three questions are consistent with the overall trend that deep motivation and achieving strategy increase with credits gained. Students successful in gaining credits have on average a deeper motivation together with a more achieving strategy.

Students who have gained more credits on average rate themselves more highly on most of the study skills. The most marked of these are: acquiring

necessary background skills; organising your time; disciplining yourself to study; and tackling assignments.

4.3 Analysis by grades obtained

A common measure of success is the quality of work rather than the quantity and so the third measure of success is the grade usually obtained. All six scales show significant trends (at the 0.01 significance level) with grades. **Deep motivation** (correlation coefficient .1193), **deep strategy** (.1720), **achieving motivation**(.1766) and **achieving strategy**(.2104) **all increase with better grades**, and **surface motivation** (-.1712) and **surface strategy**(-.1081) **decrease with better grades**.

There are many individual questions which are significantly correlated with grade they are given in Table 6 . These correlations are all consistent with the overall trends identified above. So successful students in terms of grades have higher deep and achieving motivation and higher deep and achieving strategy but lower surface motivation and surface strategy.

The ratings that students give themselves on all the study skills, increase from grade "E" (fail) through to grade "A". The "A" students rate themselves highest (4, i.e good, or more) on the following : tackling assignments; revising effectively; understanding concepts and theories; reading effectively. The "E" students rate themselves lowest (2, i.e. poor, or worse) on organising your time and examination technique.

5.0 Development of study approach and study skills in the courses

Few EAOI courses attempt to teach study skills or to change approaches to study. They may aim to motivate intrinsically by making the subject interesting and to develop deep and achieving strategies by in text questions, problem books etc. However little concerted effort has been made to teach study skills or develop motivation or strategy. One exception is preparatory booklet (14) for the Mathematics Foundation course (Open University course M101), which almost all BSc students take. It teaches the following study skills: organising time and study conditions; reading and studying mathematics textbooks effectively; making notes; writing mathematics; tackling assignments; learning from audio; and using a calculator. It has nothing on learning from video and little on revision/consolidation or exam technique. (The later are taught in face to face sessions at the end of the course).

The preparatory booklet was produced after the course had been running for a number of years and redresses a lack of study skills teaching within the course itself. There is still some discussion as to whether study skills are best taught before the course starts or are integrated into the course itself (see Ekins(8)).

The M101 course makes little effort to relate new concepts to everyday situations. Two recent internal surveys of UK M101 students (15) show that students would prefer more practical applications and examples from everyday life. This is one of the components of a deep study process. It seems that more could be done to encourage the development of a deep approach to study.

6.0 Conclusion

In summary, success in distance education degree programmes can be measured in several ways. This paper used three measures of success: persistence in the system; credits gained; and grades achieved. It has analysed the study processes, both motive and strategy from the SPQ and study skills from the students' own self-assessment. It identified some significant correlations between study processes and the three success factors, including the following.

Table 6: Questions showing significant trends with grade

	Question	Scale	Trend	sig. level
Q1	I chose my present courses largely with a view to the job situation when I graduate rather than because of how they interest me.	Surface Motive	decreases with better grade	0.01
Q31	I almost resent having to spend a further three or four years studying after leaving school, but feel that the end results will make it all worthwhile.	Surface Motive	decreases with better grade	0.01
Q2	I find that studying gives me a feeling of deep personal satisfaction.	Deep Motive	increases with better grade	0.05
Q20	I find that studying academic topics is as exciting as a good novel or movie.	Deep Motive	increases with better grade	0.01
Q26	I become increasingly absorbed in my work the more I do.	Deep Motive	increases with better grade	0.05
Q9	I have a strong desire to excel in all my studies.	Achieving Motive	increases with better grade	0,01
Q15	I would see myself basically as an ambitious person and want to be top what ever I do.	Achieving Motive	increases with better grade	0.01
Q33	I see getting high grades as a kind of competitive game, and I play it to win.	Achieving Motive	increases with better grade	0.01
Q10	I learn some things by rote, going over and over them until I know them by heart	Surface Strategy	decreases with better grade	0.05
Q28	I learn best from teachers/lecturers who work from carefully prepared notes and outline major points neatly on the blackboard.	Surface Strategy	decreases with better grade	0.05
Q11	In reading new material, I find that i am continually reminded of material i already know and see the latter in a new light.	Deep Strategy	increases with better grade	0.01
Q23	After a class/lecture or lab I reread my notes to make sure they are legible and that I understand them.	Deep Strategy	increases with better grade	0.01
Q29	I find most new topics interesting and spend time trying to obtain more information about them.	Deep Strategy	increases with better grade	0.01
Q35	I spend a lot of my free time finding out more about interesting topics which have been discussed in different classes.	Deep Strategy	increases with better grade	0.05
Q41	I try to relate new material, as I am reading it, to what I already know on that topic.	Deep Strategy	increases with better grade	0.01
Q12	I try to work consistently throughout the term and review regularly when the exams are close.	Achieving Strategy	increases with better grade	0.01
Q42	I keep neat, well-organised notes	Achieving Strategy	increases with better grade	0.05

Deep motive increased and surface motivation decreased with persistence in the system.

Deep motivation and achieving strategy increased with credits gained.

Deep and achieving motivation and strategy all increased with better grades and surface motivation and strategy decreased.

Hence deep motivation seems to be a key to success, but in order to succeed in gaining credits and good grades, deep strategy, achieving motive and achieving strategy are also needed. On average the EAOI distance learning students have deep motivation, as do many adult learners. However in order to achieve success they must develop appropriate strategies and study skills.Deep motivation alone is not sufficient to succeed in gaining credits and good grades.

Courses should thus try to develop deep and achieving strategies within the course (e.g. relate new ideas to everyday situations and to the students' prior knowledge), as well as teach more study skills explicitly.

More research should be done on the differences between subject areas, for example whether students who studied the M101 preparatory booklet, became more confident in their study skills. The effect of command of the language of instruction should also be investigated.

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